Conics and Logarithms – Review

Graph the following conic sections.

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|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | |  | | --- | | (x   -  1)2  36 | | + | |  | | --- | | (y   -  3)2  64 | | = | 1 | |  |  |  |  |  | |
|  | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | |  | | --- | | (x   +  2)2  25 | | + | |  | | --- | | (y   -  4)2  16 | | = | 1 | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | |  | | --- | | (x   +  5)2  25 | | - | |  | | --- | | (y   -  7)2  81 | | = | 1 | |  |  |  |  |  | |
|  | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | |  | | --- | | (x   +  6)2  36 | | - | |  | | --- | | (y   +  1)2  49 | | = | 1 | |

|  |  |
| --- | --- |
|  | (x  -  1)2  +  (y  +  4)2  =  16 |
|  | |  |  |  |  |  | | --- | --- | --- | --- | --- | | (x  -  3)2 | + | (y  -  1)2 | = | 4 | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | |  |  |  |  |  | | --- | --- | --- | --- | --- | | (x  +  3)2 | + | (y  +  4)2 | = | 25 | |  | |
|  | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | |  | | --- | | (y   +  7)2  81 | | - | |  | | --- | | (x   +  4)2  9 | | = | 1 | |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | |  | | --- | | x2  16 | | + | |  | | --- | | y2  64 | | = | 1 | |  | |

Solve the following.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | log 9 |  | x | = |  | |  | | --- | | 3 http://www.edhelperclipart.com/clipart/fractdiv1.gif 2 | | |  |  |  |  |  |  | |
|  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | log 16 |  | 4 |  | - |  | log 4 |  | (x + 953) |  | = |  | |  | | --- | | -9 http://www.edhelperclipart.com/clipart/fractdiv2.gif 2 | | |
|  | |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | 46x - 9 = |  | |  | | --- | | 1 http://www.edhelperclipart.com/clipart/fractdiv2.gif 64 | | |
|  | |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | 3x - 2 = |  | |  | | --- | | 1 http://www.edhelperclipart.com/clipart/fractdiv3.gif 243 | | |  |  |  |  | |
|  | 6x= 140 |
|  | 23x = 6481 |
|  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | log 4 |  | 64 |  | + |  | log 27 |  | 9 |  | + |  | log (1/2) |  | http://www.edhelperclipart.com/clipart/binom1.jpg |  | |  | | --- | | 1 http://www.edhelperclipart.com/clipart/fractdiv2.gif 16 | |  | http://www.edhelperclipart.com/clipart/binom2.jpg |  | - |  | log 4 |  | (1017 + x) |  | = |  | |  | | --- | | 8 http://www.edhelperclipart.com/clipart/fractdiv1.gif 3 | | |
|  | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | log 8 |  | http://www.edhelperclipart.com/clipart/binom1.jpg |  | |  | | --- | | 1 http://www.edhelperclipart.com/clipart/fractdiv2.gif 64 | |  | http://www.edhelperclipart.com/clipart/binom2.jpg |  | - |  | log 3 |  | 81 |  | + |  | log 5 |  | (x + 49) |  | = |  | -3 | |
|  | |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | log (1/3) |  | 81 | = |  | x | |
|  | log (1/2) 16 + log (1/3) 9 = x |
|  | log 5 x + log (1/3) 9 + log 9 81 = -4 |